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(19) (CA) **CANADIAN PATENT** (12)

(54) Training Rowboat

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Canada

Training Rowboat, Invention

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THE ABSTRACT

The TRAINING ROWBOAT is a mechanically suspended and supported metal boat located in closed building, installed in man-made water basin, furnished with the same equipment as any other wooden-made racing rowboat used for sporting purposes.

The Training Rowboat allows athletes to train all year round, independent of seasons or climatic conditions, and at the same time provides the same feeling of rowing as real conditions on lake or river.

The rowers are responsible for keeping the boat balanced, which responds to rhythmical longitudinal movement, forth and back.

The Training Rowboat is suitable for teaching beginners to row, under close supervision of the coach, using an instructional technique without the risk of tip-off.

The conventional, presently used winter training basins are made of concrete and rowers lose both their technique and their feeling of balance during off-season, winter training time, because concrete basin does not react for the rowing movement.

S P E C I F I C A T I O N

This invention relates to an exercising equipment for the use and training of oarsmen, rowers by which those muscles brought into action in rowing can be developed, trained to the same extent and under the same conditions as if the training were performed on natural lakes or rivers.

The object of the present invention is to construct a rowing boat permanently installed in the water-basin, equipped with mechanical apparatus able to provide the same movement during rowing as the conventional wooden rowing boat does on real water.

The following accompanying drawings are in reference to this invention:

- FIGURE 1 TOP VIEW
- FIGURE 2 LONGITUDINAL AND CROSS SECTIONS
- FIGURE 3 SUPPORT MECHANISM
- FIGURE 4 MIDDLE SUPPORT

Like characters of reference to like parts throughout the specification and drawings as follows:

- 1. Training boat shell suitable for maximum eight athletes
- 1a. Main shaft of the boat
- 2. Support mechanism, as detailed in Figure 3.
- 3. Coil spring
- 4. Complete oar with blade and handle
- 5. Rigger arm
- 6. Oarlock
- 7. Sliding seat
- 8. Footholder
- 9. Seat for the cox
- 10. Walkway to access the boat
- 11. Wave breaker, part of the boat
- 12. Middle support
- 13. Water basin
- 14. Training room (floor)

DETAILED OF SUPPORT MECHANISM #2 (FIG.3)

- 21. Housing
- 22. Swinging block
- 22a. Ball bearing shaft
- 22b. Bore of boat shaft #1a
- 22c. Shaft for shock-absorber
- 23. Ball bearing
- 24. Shock-absorber



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Page: 2 of 2 Specification continued

To carry out this object, the training rowboat (shell #1) is constructed of metal reinforced with ribs, welded into a water tight body, furnished with eight rigger arms (#5) on the right side and eight rigger arms (#5) on the left side extending laterally from the upper part of the shell below the wave breaker (#11)

The athlete is able to use this exercise boat either for sweep arrangements, where one rower uses one oar on one side, or a scull arrangement where each rower has two oars, one on each side.

Each rigger arm hold one oarlock (#6) where the oars are fitted. Sliding seats (#7) and footholders (#8) are mounted on the ribs and frames inside the shell. A stationary seat (#9) and foot place are provided to the cox in the rear part of the boat, facing to the athletes.

The front and rear parts of the shell are covered airtightly so that two air compartments are created. Between the two air compartments, on the upper part of the shell on both sides a wave breaker (#11) is constructed in angle to the water surface.

The oars (#4), the rigger arms (#5), oarlocks (#6), sliding seats (#7) and foot holders (#8) are to be used the same way or similar to those of an ordinary sweep or scull boat.

The boat shell (#1) is supported at three points, two support mechanism at either end and one support in the middle. The main shafts (#1a) are constructed entirely with the shell in its axis sliding into the bore (#22b) of the swinging block (#22), which is supported through ball bearing shafts (#22a), accompanied with suitable ball bearings (#23). Ball bearings are sitting in the heavy gauge metal housing (#21) of the mechanism which is placed in the cavity of the concrete form work of the basin (#13) and building construction (#14). The coil spring (#3) placed around the main shaft (#1a), and the shock-absorbers (#24) in the housing (#21) are dedicated to absorb all shocks resulting from rowing strokes and the axial movement of the boat. This mechanism is able to provide the same or very similar movements of the boat, longitudinally and laterally as of the real boat on natural water.

The middle support (#12) consists of balls (#12b) in the ball tray (#12a) placed on a concrete pillar (#12c) as part of the basin construction.

As a service equipment to this training apparatus a walkway is provided for access to the boat. This walkway is mounted on legs (#10a) keep the walkway above water level but does not interfere with the movement of the oars.

The building and its components (water basin) are not part of the invention however it is the integrated part of the training boat and insures the proper function of the invention.

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THE EMBODIMENTS IN WHICH AN EXCLUSIVE RIGHT IS CLAIMED,
ARE DEFINED AS FOLLOWS:

1. A training rowboat comprising an elongated boat shell adapted to float in water, rowing equipment for several rowers carried by said boat shell, a shaft fixed to and protruding from each of the two ends of said boat shell, the two shafts being coaxial and disposed along the centre line of said boat shell, a block for each shaft in which the shaft is longitudinally slidable and rotatable, a support for each block, means to permit rotation of said block on said support about an axis transverse to said centre line, said support having means to permit guided upward movement of each block from a lower limit position, and biasing means between each block and said boat shell to bias the latter away from the respective blocks.

2. A training rowboat as defined in Claim 1, wherein said transverse axis is spaced above said shafts whereby each block is a swinging block.

3. A training rowboat as defined in Claim 2, further including shock absorbing means resisting swinging movement of said blocks.

4. The combination of the rowboat defined in Claim 1 with a water filled basin in which said boat shell floats, said supports for said blocks mounted at opposite ends of said basin.

5. The combination of the rowboat as defined in Claim 4, but including a middle support upstanding from the bottom of said basin and supporting the middle portion of said boat shell while allowing rotation of the latter

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about the longitudinal axis of said shafts.

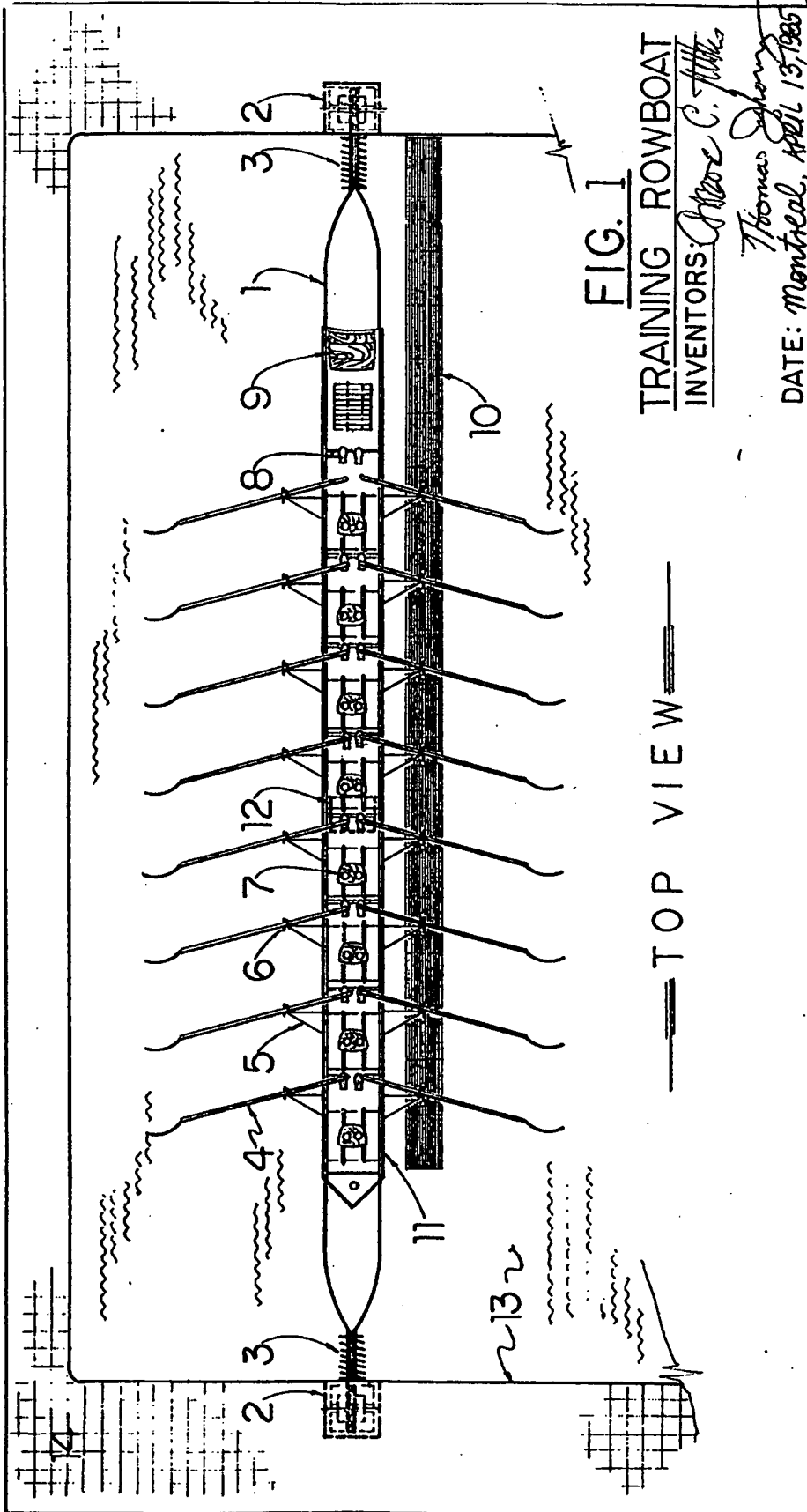
6. The combination of the rowboat as defined in Claim 5, wherein said boat shell has a partially circular cross-sectional shape in at least its middle portion and said support forms and arcuate cradle at its top end for receiving said middle portion.

7. The combination as defined in Claim 6, including bearing balls in said cradle engaging said middle portion.

8. A training rowboat, an exercising equipment for rowers, comprising a boat shell with sliding seats, foot holders, riggers, oarlocks, oars, main shaft at the front and the end of the shell, coil springs, support mechanism consisting of housing, swinging blocks, ball bearings and shock-absorbers, a middle support consisting of balls and ball tray, a walkway along the shell.

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- 21. Housing, heavy gauge.
- 22. Swinging block.
- 22a. Ball bearing shaft.
- 22b. Bore for boat-shaft.
- 22c. Shaft for shock-absorber.
- 23. Ball bearing.
- 24. Shock-absorber

1a. Main shaft of the boat.

3. Coil spring.

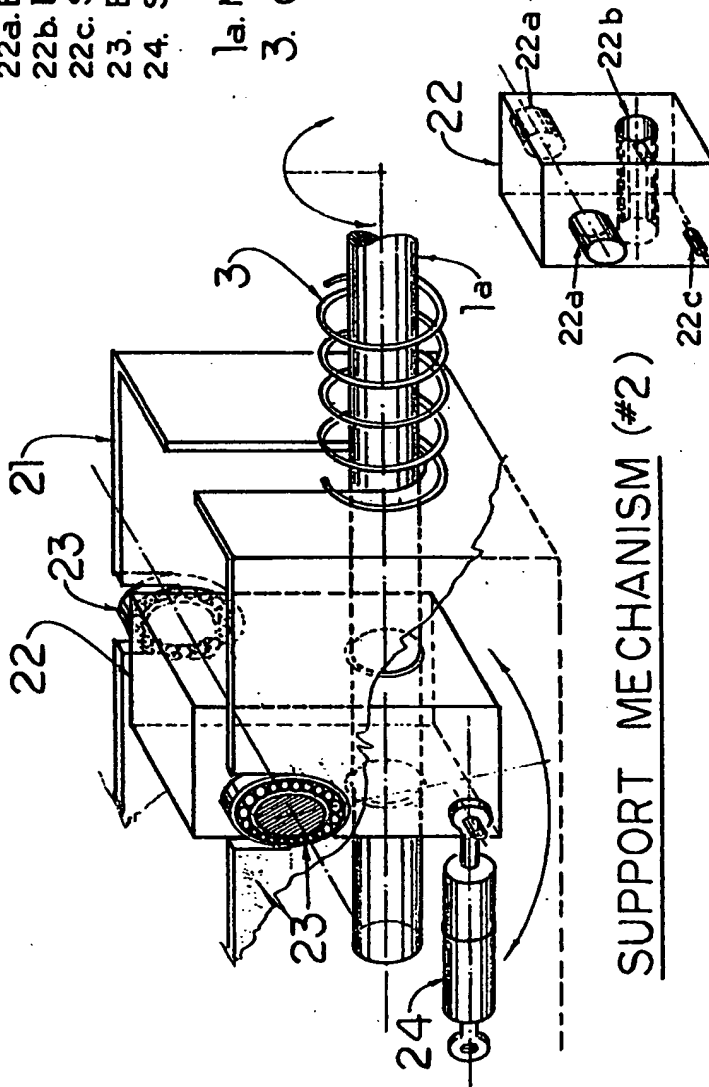


FIG. 3

TRAINING ROWBOAT

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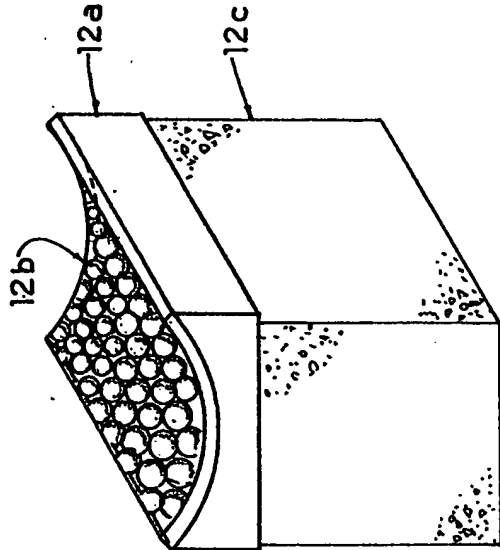
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SUPPORT MECHANISM (#2)

SWINGING BLOCK

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- 12a. Ball-tray.
- 12b. Steel-balls.
- 12c. Concrete pillar.



MIDDLE SUPPORT (#12)

FIG. 4

TRAINING ROWBOAT

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DATE: *Montreal, April 13, 1985*